FOREIGN POLICY REPORTS

January 15, 1942

U.S. Shipping and the War

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PUBLISHED TWICE A MONTH BY THE

Foreign Policy Association, Incorporated

MIDSTON HOUSE, 22 EAST 38th STREET, NEW YORK, N. Y.

VOLUME XVII NUMBER 21 *25¢ a copy* *$5.00 a year*

U.S. Shipping and the War

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THE ALLIED SHIPPING PROBLEM

THE entrance of the United States into World War II has served to rivet public attention on the main theatre of Allied effort—the war at sea. While the Allied forces possess great potential superiority in resources over the Axis, they are still largely engaged in translating this potential into actual fighting power. The point at which the Western powers are most vulnerable during this period of preparation is on the seas, for the greatest part of America's war contribution must ultimately be carried in merchantmen.

Since Great Britain is the front line of Allied efforts against Germany, the Atlantic life line must be kept open at all cost. A break in the "bridge of ships" would be as disastrous to the Allied effort as destruction of its railways would be to Germany. For not only does Britain have to be supplied with a minimum of 35 million tons of goods from overseas each year,[1] but America itself must import annually some 20 million tons of raw materials (not including petroleum) to feed its ever-expanding defense program.

Maintaining the flow of these two great rivers of goods, however, is only part of the Allied shipping problem. In his third quarterly report on lend-lease aid on December 15, President Roosevelt told Congress that aid must continue to the thirty-two countries that have been designated as vital to the defense of the United States. "The world-wide strategy of the Axis powers," the President asserted, "must be met with equal strategy on the part of all the nations who are joined together in resisting their aggression. Accordingly, we must use the weapons from the arsenal of the democracies where they can be employed most effectively. And that means we must let Britain, Russia, China and other nations, including those in this hemisphere, use the weapons from that arsenal so that they can put them to the most effective use. Too much is at stake in this greatest of all wars for us to neglect peoples who are or may be attacked by our common enemies."[2]

1. United Kingdom imports in 1938 were well in excess of 50 million tons. In 1917, when imports dropped to 34 million tons, the supply situation had reached a dangerous point. See Paul Wohl, "Gradual Attrition," *New York Herald Tribune*, December 7, 1941.

LEND-LEASE AID TO SHIPPING

In addition to the heavy demands of the lend-lease program on shipping, most of the countries of Latin America depend on British and American vessels to keep them supplied with ordinary imports and to carry their exports to foreign markets. Under the Good Neighbor policy, the United States cannot afford to turn a deaf ear to these needs and the Maritime Commission must weigh them in relation to the whole wartime shipping situation when it allocates shipping space.

Although world attention has tended to focus on the Battle of the Atlantic, the shipping problem confronting the Allies today cannot be geographically isolated. The extent to which neutrals and other countries far distant from the main scene of fighting can ultimately be drawn into the Allied orbit will be determined by the measure of control the Allied governments succeed in maintaining over seagoing tonnage. The desires, the needs, even the daily habits of individuals throughout a great part of the world may be in large measure influenced by the power that can give or withhold shipping space. Merchant fleets, therefore, are not merely a system of communication vital to Allied defense; they are also an important instrument by which the Allies can implement their

2. *New York Herald Tribune*, December 16, 1941.

FOREIGN POLICY REPORTS, VOLUME XVII, NUMBER 21, JANUARY 15, 1942

Published twice a month by the FOREIGN POLICY ASSOCIATION, Incorporated, 22 East 38th Street, New York, N. Y., U.S.A. FRANK ROSS MCCOY, *President;* WILLIAM P. MADDOX, *Assistant to the President;* VERA MICHELES DEAN, *Editor and Research Director;* HELEN TERRY, *Assistant Editor. Research Associates:* T. A. BISSON, LOUIS E. FRECHTLING, MARGARET LA FOY, HELEN H. MOORHEAD, DAVID H. POPPER, ONA K. D. RINGWOOD, JOHN C. DEWILDE. Subscription Rates: $5.00 a year; to F.P.A. members $3.00; single copies 25 cents. Entered as second-class matter on March 31, 1931 at the post office at New York, N. Y., under the Act of March 3, 1879.

181 *Produced under union conditions and composed, printed and bound by union labor.*

war policy. An exact picture of the shipping problem Britain and America face today, of course, is not available. Some indications of it, however, can be found in facts at hand. A review of the increasing difficulties the Allies have faced since 1939, and what they have done about them, can give us some idea of what they have yet to do.

At the outbreak of war, Great Britain had 21,000,000 gross tons of merchant shipping.[3] This accounted for about two-thirds of the ships carrying Britain's imports. At least another 10,000,000 tons under foreign flags were required to supply the Empire in 1939. British tonnage today, of course, is called upon to do a vastly larger job than before the war. Exactly how much this wartime job represents in terms of tons has naturally not been made public.[4] But a fair estimate of British wartime needs can be gleaned from a study of the limiting factors that control the tonnage available for serving Britain now.

THE CONVOY PROBLEM

However great available tonnage might be, its effectiveness is considerably curtailed by the conditions of wartime operation. Convoys, for example, must travel at the rate of the slowest ship. Because of the scarcity of escort vessels, convoys in this war have been unusually large. As compared with World War I, when a convoy of 30 ships was thought considerable, convoys of 60 ships have been frequent today, which means that sometimes a quarter of a million tons of goods has had to crawl across the Atlantic at a speed of 6 or 8 knots. It is understood that the British have done much to alleviate this situation, by regrouping ships according to speed and by permitting some of the fastest armed cargo ships to strike out for themselves. At best, however, any convoy represents so considerable a sacrifice of speed for safety that, in the last war, Admiral Jellicoe agreed to convoys only after it was apparent that this was the one method of saving Britain from starvation.[5] Aside from slowness during the actual voyage, convoys present the additional problems of assembly and "bunched" arrivals at their destination.

REGULATIONS AND REPAIRS

Wartime shipping raises other than technical problems. From Allied and neutral quarters have come complaints regarding seemingly needless red tape. For example, two weeks may sometimes elapse before authorization comes through for the arming of an Allied ship on this side of the Atlantic. In those two weeks, a trip across could have been made by some of the faster Norse ships. If there were any question as to whether a ship should be armed, the delays would be more readily justified. Instances of this sort have lent a certain credence to charges that the British are not as hard pressed for ships as they have claimed.

No adequate figures are available regarding the number of ships laid up for repairs at any one time. Estimates vary from one to two million tons. Facilities for repairs are strained on this side by the United States building program; on the British side they are complicated by a building program, bombing and blackouts. Some idea of the delays for repairs may be had from single instances such as the weeks the British battleship *Malaya* spent in New York waters where, it may be assumed, every preference would have been given for quick handling. In the case of merchantmen, which cannot expect the expeditious treatment accorded a capital ship, even more time may be required for reconditioning. Finally, World War I figures give no precise indication as to the ratio of ships in repair to ships in operation, since in the present war the use of bombers is known to have increased the proportion of ships put out of action by damage as against those sent to the bottom.

BRITISH SHIPPING LOSSES

There is a great disparity between the figures on losses given out by the Germans and those given out by the British. At the end of October Prime Minister Churchill announced that British and Allied losses, in round figures, had reached a total of 7,850,000 tons. The official German announcement for the same date claimed that 14,500,000 tons of shipping serving the British had been sunk. We have, however, several good reasons to expect more accuracy from the British figures. In the first place, the British are in a better position than the Germans to know their losses. In the second place, although they have some reason to

3. British Shipping Mission, *Press Release*, September 24, 1941.

4. William Diebold, Jr., says that about 15 million tons are used to supply the United Kingdom. ("The Wartime Use of Shipping," *Foreign Affairs*, July 1941.) But this is merely an estimate, since the actual figure has never been made public (see Churchill's speech to the House of Commons, September 30, 1941) and also, it covers only the ships serving the United Kingdom directly and does not include ships required to serve the Empire. The fact that some British-chartered Norwegian freighters are in the Latin American trade, and Norwegian and Dutch ships have operated in the Far East has been taken by some to mean that Britain's position is not desperate. Such a view overlooks the fact that these ships are needed where they are; they carry, for example, about a fifth of the trade between Latin America and the United States. To divert them to other purposes would disrupt American imports of critical and strategic materials from South America.

5. Admiral William V. Pratt, "Warfare in the Atlantic," *Foreign Affairs*, July 1941.

weight the figures in their own favor, to raise morale, there is little reason to believe they have done this, since the figures released (particularly during the three months ending with June 1941) have hardly been morale-builders. Again, although they did weight the figures during the last war,[6] there have been counterbalancing reasons in this war to do just the opposite, in order to convince the United States that the position was sufficiently desperate to warrant immediate help. Finally, the British figures check all along the line with Norwegian figures — and the Norwegian Trade and Shipping Mission does not have to give consideration to propaganda elements in the sense that the British do.[7]

The British Admiralty stopped releasing monthly figures of losses at the end of June 1941. Since then, the only British figures available have been those given out by Mr. Churchill in Parliament. At the end of September he declared that losses for the three months then ending were only a third of the losses suffered during the spring and, in November, he announced that the losses for the four previous months had dropped to 750,000 tons. Although this meant that the losses for the month of October had climbed from the summer's average of 156,000 tons a month to 280,000 tons, it also meant that the monthly average for the previous four months was 180,000 tons, a figure that holds out hope for the future. When President Roosevelt stated at the end of May 1941 that "the present rate of Nazi sinkings is more than three times as high as the capacity of British shipyards to replace them," the "present rate" had been averaging 528,000 tons for the previous three months. If this is the loss rate the President had in mind, then the British must now be within sight of equalling losses by their own efforts, not to mention our constantly increasing output.

BRITISH SHIPPING GAINS

Against British losses must be placed the gains resulting from captures, neutral shipping on time charter, Allied shipping chartered by Britain (Norwegian, Dutch, Greek, Belgian and Polish), and new ships, built or purchased. The total figure for gains can at best only be estimated, and the estimates vary from something over 9 million tons[8] to more than 12.5 million tons.[9] At first glance, however, either figure on total gains would seem to show the British to be almost as well off now as they were at the beginning of the war. But this conclusion is deceiving. It takes no account of the fact that before the war the ships serving Britain and the Empire were not merely the 21,000,000 tons registered under the British flag, but that about one-third of Britain's imports were brought in ships of other countries. It does not take into account the fact that the published figures include only losses due to enemy action, and not those due to ordinary maritime risks, and that risks, naturally, are much higher in the waters around wartime England where navigation lights are extinguished.[10] It also takes no account of ships laid up for repairs, nor of the considerable number of merchant ships requisitioned for direct military service as armed merchant cruisers, troop ships, and various types of naval supply ships. While there are no figures to indicate even an approximate tonnage of merchant ships that have been taken over by the armed services, there is no doubt that the number is considerable if the inroads made by the American armed services on the American merchant marine is any indication.[11] Even if the shipping tonnage now available to England were the same as before the war, the effective capacity of those ships would be considerably less than in peacetime, not only because of the slowing-down tendencies of wartime operation noted above, but also because all near-by sources of supply in Europe are under Nazi control. Food that used to be brought from Holland and Denmark, across a narrow strip of water, must now be brought 3,000 miles across the Atlantic, and ships from the Far East must sail around Africa.[12]

THE WAR AT SEA BEFORE U.S. ENTRY

Before the United States entered the struggle, the war at sea had gone through three well-marked phases. During the first phase, which covered the period from the beginning of the war to the fall of France, the conditions Britain had to face at sea were very much the conditions it successfully faced during the first world war. German submarine operations were restricted to the North Sea and the waters immediately around Britain, as they had been in the previous war and, even after the occupation of Norway, the Germans still had

6. *Ibid.*

7. According to Nortraship (cable designation of the Norwegian Trade and Shipping Mission) officials, British figures of total losses are in proportion to the losses sustained by Norwegian ships under charter to the British.

8. "Ships for this War," *Fortune* (New York), July 1941.

9 *Tribune* (Chicago), September 18, 1941.

10. According to information furnished by the British Shipping Mission, maritime losses in wartime are usually ten times what they are in peacetime, which means that they are now running at approximately a half million tons yearly.

11. U.S. Maritime Commission, *Economic Survey of the American Merchant Marine* (Washington, Government Printing Office, 1937), pp. 9 ff.

12. In 1938 about 32 per cent of the United Kingdom's imports came from the continent. See Diebold, "The Wartime Use of Shipping," cited.

no bases from which they could employ their air arm in effective cooperation with U-boats.

The second phase, which opened with the fall of France and extended through the first half of 1941, was characterized by a strategic position the British were ill-prepared to face. The Germans gained the use of the Italian Navy at the very time the British lost the aid of the French Navy and—what was of far greater significance—the Germans were able to operate directly from Atlantic bases and to develop fully their air arm as a naval asset. British tonnage losses rose correspondingly and, during the first six months of 1941, they averaged over 500,000 tons a month, a rate the British could not have afforded over a much longer period.

The third phase reflected the greatly increased aid from the United States, not only with respect to merchant tonnage replacement, but also with respect to direct naval aid. In addition, during this third phase, the British have been free of any immediate danger of invasion and have therefore been able to spare for escort duty at least some small craft from duty in home waters.

This, briefly, is the background of the problem faced by Britain at sea—a problem the United States inherited on becoming an active belligerent. Most experts agree that, even if the British were not now facing tremendous strategic disadvantages, they would still be handicapped by an insufficiency of war matériel which at present only this country can supply.[13] If, for example, the British were even now permitted to use bases in Ireland, it would not make up entirely for the fact that they started this war with 225 destroyers, as against the 650 they had last time. The key, then, to the war at sea can be found by examining the maritime position of the United States—its condition at the beginning of the war, what has been done about it thus far, and what may yet be achieved.

MARITIME POSITION OF THE UNITED STATES

The United States merchant marine of 1939 was in a far better position to face the earlier phase of the conflict than was the merchant marine of 1914. The relatively improved status was due chiefly to three advantages. First, the 2,300 ships which the United States had built for the first world war at a cost of some three billion dollars[14] were still on hand in large numbers—many laid up for lack of demand for their services. Second, there was already in existence a government agency ready to handle the problems involved in a shipping crisis. The United States Maritime Commission, created by the Merchant Marine Act of 1936, had the dual advantage of acquiring much of the personnel of previous federal agencies (the Shipping Board and the Emergency Fleet Corporation), and of having had more than two years of valuable experience of its own. Third, because Congress in the Merchant Marine Act of 1936, had authorized rehabilitation of the aging merchant fleet of World War I, the Commission had under way in the fall of 1939 a long-range program for building 50 ships a year for 10 years. The first hull in this program was laid down in October 1937, and by October 1939 the Commission had contracted for 141 new vessels (1,440,000 deadweight tons), 12 of which had been put in operation on "essential" routes.[15] As the nation was about to embark on a mammoth new defense program, it could be grateful for the foresight which stimulated legislation for new ships as early as 1936. On the other hand, it could be critical of the lack of foresight which, for 15 years before 1936, had allowed almost the whole merchant fleet to approach obsolescence simultaneously.

THE MERCHANT MARINE

On June 30, 1939 the United States ocean-going merchant marine aggregated 1,398 vessels of 8,134,890 gross tons. Operating in foreign trade were 319 ships of 2,094,212 gross tons. Of these, 227 ships plied in overseas traffic, 92 in "near-by" foreign trade, which includes Central America, the Caribbean, and near-by islands. In the laid-up fleet there were 306 ships of approximately a million and three-quarters tons.[16] About a third of the country's foreign commerce was being carried in its own bottoms, in contrast to the 10 per cent so carried at the beginning of the first world war.[17] Moreover, these ships were operating in numbers which were well dispersed over routes deemed by the Maritime Commission "essential" to the welfare of the United States. Of the 227 vessels in the overseas trade, 132 sailed over transatlantic lanes, 20 to the Orient, 45 to South America, 7 to Australasia, and 12 around the world.[18]

The outbreak of war did not bring about im-

13. In this connection and for a review of the strategic position at sea, see Pratt, "Warfare in the Atlantic," cited; and Fletcher Pratt, "The U-Boats Are Coming," *Saturday Evening Post*, December 6, 1941.

14. U.S. Maritime Commission, *Press Release*, No. 881.

15. U.S. Maritime Commission, *Report to Congress*, October 25, 1939, p. 1.

16. Statistics from U.S. Maritime Commission, *Report No. 300*, June 30, 1939.

17. U.S. Maritime Commission, *Memorandum to the House Committee on Merchant Marine and Fisheries*, April 15, 1941.

18. U.S. Maritime Commission, *Report to Congress*, October 25, 1939, p. 1.

mediate cessation of trade. Although 90 of the 132 ships in the transatlantic run had to abandon trade with the combat area of Europe because of the neutrality law, widespread pessimistic prophecies regarding the dire results to American commerce did not prove justified. Shipping interests were naturally reluctant to withdraw from these sea lanes, over which traveled 40 per cent of the nation's foreign trade. Shippers were fearful that such a withdrawal of tonnage from the transatlantic run would set rates soaring. Actually, most of the 90 vessels were rerouted; rates took an upward trend, but did not skyrocket in the 1914 sense; and United States foreign commerce continued, not only undiminished, but augmented. Great Britain diverted many of the ships under its control to transatlantic trade, thus compensating in large part for the withdrawal of American vessels.[19]

Such was the position of American shipping as it met the first phase of World War II. The foreign and American tonnage available for continued commercial operation was sufficient, with few exceptions, to satisfy the demands on it at this stage. The initial disorganization precipitated by the withdrawal of American ships from the combat area was soon corrected, and there was no evidence that American ports were congested with goods awaiting shipment or that American industry was likely to suffer from any curtailment of imports of vital materials.

Because of the improved position of the United States over 1914 with regard to ocean transportation, and because the initial phase of the naval war presented no problem that had not been to some degree anticipated, there was a temptation even after the fall of France to regard the war at sea with complacency. As a matter of fact, Admiral Emory S. Land, Chairman of the Maritime Commission, stated as late as December 1940 that of all official Washington's worries in recent months concerning the preparedness program, "it has not had to worry very much about shipping."[20]

REPLACEMENT PROGRAM ACCELERATED

Actually, considering the demands that were to be made on the merchant fleet by wartime conditions, there was no room for complacency. While some of the more acute problems presented by the turn of events in this war could not have been fully anticipated, such problems as had been foreseen had not been met with all the swiftness of execution of which this country is capable. In the survey that Congress required the Maritime Commission to make before undertaking a program of rehabilitation,[21] it was found that the United States merchant marine was not in condition to fulfill its defense functions. In the event that the United States should be drawn into a war with a major power, this study estimated that a minimum of 1,000 merchant ships of all types, aggregating about 6,000,000 gross tons, would be required by the military services. Such a fleet would be necessary in the early stages of the conflict for technical military purposes and would be "but a fraction of the number that would ultimately be necessary in case of prolonged hostilities." In the summer of 1939, then, the United States had enough ships and enough tonnage for beginning a war with one major power. But although the total merchant fleet met estimated requirements as to quantity, few ships met the qualifications for waging a successful war. Most of the tonnage was too old, too slow, or both. The general conclusion of the Commission's survey as to the national defense value of the merchant marine was that "the defense needs of the United States dictate the replacement of the bulk of the present fleet."

To meet the exigencies of the first phase of the war at sea the Commission acted in four ways. It had begun its long-range program for replacing the bulk of the merchant fleet in October 1937. This program initially called for construction of 500 ships over a period of ten years. At the outbreak of the war, it was apparent to the Commission that the long-range building program would have to be accelerated, and it received the President's sanction on stepping-up the schedule early in September 1939.[22]

TRANSFER OF TONNAGE TO ALIEN REGISTRY

Another direction in which the Commission acted was in its approval, during the first 18 months of the war, of the transfer of 430 watercraft of all types (1,477,842 gross tons) to alien ownership and/or registry. Their average age was 20.7 years. Of this total, 182 ships of 647,706 tons went to Britain; 45 ships of 61,913 tons went to Canada; 136 ships of 510,350 tons went to 12 Latin American republics; 80 ships of 31,488 tons went to the Philippine Islands; and 19 ships of 49,229 tons

19. J. C. deWilde, "The War and American Shipping," *Foreign Policy Reports*, April 1, 1940.

20. U.S. Maritime Commission, *Press Release*, No. 774.

21. Public Law No. 835, 74th Cong., Sec. 201 (a). This survey, the result of a year's thorough study of the problem made by experts under the auspices of the Maritime Commission, was published in October 1937.

22. The revised long-range program now calls for the completion of 100 ships a year, rather than the 50 originally scheduled.

were sold to France before that country fell.[23] This transferred tonnage came largely from private owners who saw an opportunity to dispose of their obsolete vessels in a rising market; there were, however, 286,000 gross tons transferred from the government's laid-up fleet. With the exception of the tonnage sold to France, the shipping thus transferred, although it reduced the American fleet quantitatively, continues to serve American policy. Another, and not inconsiderable, benefit derived from these transfers by the United States was that a large portion of the more than 77 million dollars received went toward new construction which would replace the transferred ships.

In the third place, the Commission withdrew ships from domestic trade and placed them in foreign trade. At the beginning of the war domestic shipping was decidedly over-tonnaged. The shipbuilding program of the first world war had glutted the trade to such an extent that virtually no new tonnage was added until the drain of sales to foreign countries and to United States foreign lines began to cut down the surplus in 1940.

Finally, the Commission undertook the task of reconditioning old ships, some of which had not seen service for years. As a result of all these moves, the United States merchant marine in late 1940 was far better balanced for national defense purposes than it had been previously. Yet all these factors indicating the improved condition of America's merchant fleet proved to be deceptive in the light of aggravated war conditions.

EMERGENCY SHIPBUILDING PROGRAMS

If, at the end of 1940, we were too inclined to complacency, we were not long in overcoming that state of mind. The change in Britain's position had begun to make itself felt. By that time, our policy of aiding Britain was emerging from its chrysalis stage, the President had returned from his post-election respite with well-defined ideas about methods of meeting the rising crisis, and the Maritime Commission launched an emergency building program before a week of 1941 had passed. As we have seen, during the first year and more of the war, we undertook to do no more than quicken a building program adopted in 1937 and to rationalize our existing fleet by transfers, re-routings and reconditioning. Under the impetus of the new strategic position in which we found ourselves as we accelerated our aid to Britain, we attempted in the winter and spring of 1941 to triple our original program. By August, Congress had underwritten three separate construction programs calling for completion by the end of 1943 of 1,000 new ships in addition to the basic, long-range program of 500 ships.

There were two sources of tonnage from which the Commission could draw when confronted with the sharp increases demanded by the quickening course of events in January 1941. One source, of course, was additional construction; the other was existing tonnage over which absolute federal control did not at that time exist.

It is on new construction that this country must principally depend for offsetting destroyed tonnage. But the acceleration of a shipbuilding program is something that can happen much faster on paper than in a shipyard. The three programs that were launched in 1941 are impressive. They include the 200 emergency type ships[24] called for by the President on January 3, the 227 ships of both standard and emergency type for Britain under the lend-lease agreement, and 566 ships of all types (including 25 seagoing tugs) authorized by Congress last August under the Supplemental Defense Appropriation Bill.

NEED FOR NEW SHIPYARDS AND WAYS

It was the job of the Maritime Commission to turn these paper programs into steel ships in time to influence the outcome of the war. And this task had to be accomplished side by side with the largest naval building program ever undertaken in the United States, the Commission's own long-range program, an order for 60 ships placed with American shipyards by Britain in December 1940, and a handful of contracts already placed by private interests for the construction of tankers and cargo ships.

On January 3, when the President announced the first emergency construction program, 18 shipyards with a total of 70 ways were building ships for the Commission's regular program. If each of these ways completed a ship every four months, it would take five years to launch the ships called for under the three emergency programs of 1941 alone.[25]

This would be about as useful to the United States as the Hog Island shipbuilding episode of

23. House Committee on Merchant Marine and Fisheries, "Purchase and Charter of Foreign-Owned Vessels," *Hearings*, p. 145.

24. The emergency type ships (EC2s), originally called "ugly ducklings" but since re-named "the Liberty fleet," are of simplified design and lend themselves to semi-mass production methods.

25. Seven months per unit is being allowed from keel-laying to delivery. Ordinarily, merchant ships spend about four of the seven months' construction time on the ways. See U.S. Maritime Commission, *Press Release*, No. 930. It is hoped that the total construction time will ultimately be cut from seven to five or even four and a half months on the emergency type ships.

1917.[26] The Commission, therefore, had to tackle the job of supervising the construction of new yards and ways. To avoid the congestion of the Hog Island venture, the plans call for spreading building all around the coasts. In choosing each location, such factors as labor supply, transportation facilities, housing, power, and so on, all have to be fitted into a nice balance. In awarding contracts, the Commission has to take into account the financial and technical competence of the bidder. Admiral Land's description of a promoter as "a man who will furnish the ocean if you will furnish the ships," gives some idea of the pitfalls the Commission might stumble into in handing out contracts for new yards.

So that construction of the 372 emergency-type ships[27] would in no way interfere either with naval or long-range building, it was decided that they should be assembled in entirely separate yards. Accordingly 11 yards, with a total of 93 ways, were projected to handle the construction of this type alone. The first of these was ready to take its first keel on April 14, 101 days after the President called for the first 200 emergency ships.

In contrast to the 18 yards in operation at the beginning of 1941, by mid-November, according to figures released by the Construction Division of the Commission, maritime vessels were being constructed in 48 different yards.[28] While yet greater facilities are obviously necessary, a clear recognition of the limitations on too rapid expansion of facilities is apparent in the slashing of naval tonnage called for under the third supplemental defense bill from 900,000 to 150,000 tons.[29]

All of the building yards are located on the Atlantic, Pacific and Gulf coasts. In the Great Lakes, the United States has additional building facilities that could be tapped if need be. At present, however, no ship the size of those in our current programs could reach the sea from Lake yards. In his message to Congress on June 5, 1941, the President urged acceptance of the St. Lawrence Seaway Project, partly on the basis that the United States needed the ships that could be built on the Lakes. He suggested transferring some of the long-term naval construction there, so that by the time the ships were completed, the seaway would be ready. Such a plan may yet prove necessary.

26. The Hog Island, Philadelphia, shipbuilding plant completed 122 of the 2,300 ships built for the last war. Not one of the 2,300 ships was finished in time to get into the first world war, however.

27. This total includes the 60 ships ordered by the British in December 1940, the 200 ships in the first emergency program announced in January 1941, and the 112 ships of the type called for under the lend-lease agreement in April 1941.

28. U.S. Maritime Commission, *Press Release*, No. 1086.

29. The House Naval Affairs Committee estimated that the 150,000-ton figure would be as much as shipbuilding facilities could absorb and accommodate in 1942. *The New York Times*, December 16, 1941.

LABOR BOTTLENECK

The next great bottleneck the building program had to meet was a staggering lack of human talent in all categories, both technical and managerial, as well as skilled and semi-skilled labor. The scarcity of shipbuilding talent today is a result of the 15-year period following the last war when the existence of 2,300 ships built for that war, in addition to the naval "holiday," almost had the effect of starving the profession out. Today, this scarcity represents the most serious handicap in the entire maritime program. When the lend-lease program of 227 ships for Britain was announced, Admiral Land stated: "We can handle this program, vast as it is. But any further expansion of shipbuilding in the United States will be done only at the expense of efficiency and economy and with delay in delivery of the vessels now ordered and authorized."[30]

Some observers have been inclined to take issue with Admiral Land as to the amount of dilution our available talent can stand and still maintain its efficiency. As a matter of fact, the Admiral himself has revised his own views considerably in this regard, and has asked Congress for authorization for a building program twice the size of the lend-lease program referred to in the above statement. Nevertheless, no competent observer will deny that a very serious shortage of talent is today the most limiting factor in America's construction program.

The job of building a ship does not lend itself very readily to mass production, no matter how much concentration there may be on a given model. No two shipyards have identical facilities, and naval architects and blue-print men have to revise specifications constantly to fit local conditions. The fact that the 372 ships of the emergency type are being built from basically the same pattern, however, has allowed for the greatest possible economy of talent, especially with respect to designers, draftsmen and loftsmen.

"SEGMENT TRAINING"

While there are no short cuts in training a naval architect, the urgency of the defense program has created streamlined methods of training labor. Under the new technique of "segment training," no effort "is exerted to make the new worker a competent mechanic or well-rounded artisan. . . . The trainer wastes no time in telling the new man

30. U.S. Maritime Commission, *Press Release*, No. 881.

how to do the phases of his job that come naturally to him but concentrates on the phases with which he has difficulty. . . . It has been found that under the new system men in some cases can learn in three days skills it formerly took three months to master."[31] Segment training, in conjunction with the substitution of riveting by welding (which is much easier to learn and involves two men where four were formerly used) may prove the mitigating factors that will permit expansion of production far beyond its present limits. And because the general efficiency of any yard increases with each ship launched, the labor bottleneck may ultimately be broken.

CREW AND OFFICER SHORTAGE

Although it is up to industry to find and train the human talent for building a thousand ships, it is up to the Maritime Commission to train the seamen and officers to man them after they are built. To meet the emergency, the Commission is expanding all of its training facilities.[31a] Its agency, the United States Maritime Service, gives courses for men with previous sea experience. Shore bases and training ships are maintained. Prospective officers are given four months' preparation to qualify them to sit for licenses as junior officers. Another phase of the Commission's training program is the cadet training system operated directly by the Commission with schools at New York, New Orleans and San Francisco. At these schools, and on regular merchant vessels, cadets are given a three-year course to equip them to become licensed merchant marine officers.

While the shortage of seamen to man the fast-growing merchant marine has been alleviated in recent months as the Commission has expanded its training program, the question of crew and officer shortages in the near future has become extremely serious. In the next two years, the country will have produced more than twice the number of ships it now has at sea. There is, of course, no means of knowing now how many of these will ultimately be operating in our merchant service. Some of the ships will be turned over to Britain under the lend-lease agreement,[32] and it will be Britain's responsibility to man and officer them. Others will be turned over to the United States Army and Navy and will be manned by these services. But the bulk of the new ships will have to be manned by citizen crews of this country. Despite such inducements as exemption from selective service and the fact that cadets receive $99 and keep until they become officers, cadet classes up to the outbreak of war had not been running at capacity.[33] This means that extension of existing training facilities may not be all that is required to provide the requisite personnel to man America's new ships. What further inducements may be necessary to stimulate the whole training program will have to be the subject of very serious study by the Commission if a crucial shortage is to be avoided.

DIVISION OF EMERGENCY SHIPPING

Along with the emergency construction programs launched in 1941, the government has sought to make the most effective use of tonnage already on hand by extending its control over both domestic and foreign ships entering American ports. As we have already seen,[34] some steps in rationalizing the existing tonnage were taken even prior to the emergency ushered in with the second phase of the war at sea. In order to manage existing shipping effectively, the Commission has had to find ways to balance all the interrelated demands for cargo space. Lend-lease aid must get to the 32 countries designated by the President. The wide curve of our own new bases, stretching from Iceland through Newfoundland, Bermuda and the West Indies to Brazil, must be supplied. The exporting economies of Latin America may not be ignored, otherwise the Good Neighbor policy would have a hollow ring.

The first thing the Commission did, when it had to assume these new responsibilities, was to set up a Division of Emergency Shipping. The new Division is charged with handling all emergency transportation problems. It supervises ship sales, charters, transfers, requisitions, and reallocations and reassignments of services. It also maintains liaison with all federal departments and agencies concerned with ocean transportation. The crucial problems of delivering defense materials to the United States and to friendly nations, as well as filling the requests of the armed forces, are thus placed under a single responsibility.

So far as charter and sale of ships are concerned, the policy has been to concentrate them on services most beneficial to United States aims. One method of insuring this has been the rigid examination of every charter or sale to aliens to see that it will in some way harmonize with American policy, or at least not conflict with it. Another has been the inclusion, in invitations to bids for chartering government ships, of a clause specifying that bidders must agree to operate the vessels on an

31. "How Many Ships How Soon?" *Fortune*, July 1941.
31a. *The New York Times*, January 18, 1942.
32. Under present arrangements, 227 ships.
33. *The New York Times*, December 7, 1941.
34. See p. 267.

"essential" trade route and to carry strategic materials as required by the Commission.[35] High bidders are turned down in favor of lower ones if the purposes of the latter appear more advantageous to national defense.[36] Finally, the Commission has issued a request that all United States citizens and corporations owning merchant ships, whether registered in this country or not, submit to it any proposed sales or charters of their vessels.

THE SHIP "POOL"

Another job assigned to the Division of Emergency Shipping was the handling of the 2,000,000-ton ship "pool" requested by the President on April 30. From the oil companies came 50 tankers; the intercoastal lines furnished about half of their 96 ships; 80 odd ships were added through Congressional authorization to take over the ships laid up in our ports belonging to Germany, Italy or their victims;[37] and 11 ships came from the government's laid-up fleet. All of these totaled some 1,400,000 tons. The remainder will have to come from the coastwise and offshore fleets. The pool ships are operated by private owners and have been used largely in ferrying supplies from South America for transfer at New York or Halifax to Britain-bound ships.

THE CARGO SPACE PROBLEM

Although the Commission has always had the power to requisition domestic tonnage and, since June 6, 1941, has had the power to requisition foreign tonnage in our ports, it has sought throughout the emergency to avoid use of this ultimate sanction. When it became apparent that some operators were depending entirely too much on the Commission's hesitancy to take over, the Commission asked Congress for legislation regulating all ships entering United States ports by the issuance of warrants. Specifically, the warrants would give preference in "the use of facilities for loading, discharging, lightering or storage of cargoes, the procurement of bunker fuel or coal and the overhauling, drydocking, or repair" to vessels carrying vital materials. The effect of the warrants act has been to guarantee to the government priorities for shipping space without obliging the government to take over ships directly.

35. U.S. Maritime Commission, *Press Release*, No. 880.

36. For an example of three high bidders rejected in favor of a fourth that was deemed by the Commission to propose more helpful service, see U.S. Maritime Commission, *Press Release*, No. 885.

37. Thus far, no French ships have been placed in the pool; they have been held in "protective custody" since May 15, 1941. On December 12 all 13 French vessels in United States ports were taken over for "undisclosed service." *New York Herald Tribune*, December 13, 1941.

Actually, as has often been the case during days of heightening crisis, the Commission and interested government agencies effected a working basis for cargo priorities even before the Act was passed. Operators knew they could either agree with grace, or face a less desirable situation precipitated by their own recalcitrance. Thus, during most of 1941, the agencies charged with securing critical and strategic materials for the defense effort had every reasonable assurance that cocoa would not be taking up cargo space vitally needed for manganese. With the repeal of the sections of the neutrality law that kept American ships out of the war zones, the Commission got the final legislative green light it needed for operating under conditions short of outright American belligerency. True, a more coherent program could have been worked out if the merchant fleet had been requisitioned. The relationship of the American and British merchant marines could then have been more precisely coordinated and a maximum utilization of the existing fleets achieved. But all of this is now past history.

NEED FOR SHIPS AND MORE SHIPS

The Japanese attack on Pearl Harbor violently upset previous estimates of Allied shipping needs. America's entry into the war presents the double-edged problem that there is more to move with less tonnage, for the time being at least, to move it in.[38] To meet the new situation, the United States will have to build more ships, and this country and its allies will have to make even more efficient use of existing tonnage than heretofore.

Now that this country is an active belligerent, the great problem is to allocate shipbuilding facilities in such a way as to achieve a proper balance between naval and merchant-ship construction. The question of relative importance, it has been said, is about on a par with the comparative value of the lungs and the heart to a human being.[39] In times of crisis, however, there is always apt to be a great hue and cry for vast increases in naval tonnages—despite the fact that the merchant fleet has the important wartime function of providing transportation for expedi-

38. According to Maritime Commission figures there was, as of April 30, 1941, the last date for which figures are available, an aggregate of 744,350 gross tons of Japanese shipping engaged between the United States and foreign trade areas. Since then, however, there has been a steady decline in this tonnage. And so, although there has been a considerable burden added to United States bottoms because of the withdrawal of Japanese tonnage, the impact has not proved as great as might have been expected. See *Hearings before the Subcommittee on Appropriations*, United States Senate, on H.R. 5412, pp. 238 ff.

39. *Economic Survey of the American Merchant Marine*, cited, p. 10.

tionary forces. The apportionment of shipbuilding facilities is a matter of grand strategy that can be effectively handled only by expert technicians. Congress has recognized this fact by the unusual procedure of authorizing a 150,000-ton increase in fighting ships and leaving it to the Navy Department to determine the type of ships to be built.[40] It is safe to assume that Congress will allow similar freedom to be exercised in the determination of wartime merchant-ship construction.

In the last war, this country could depend on British ships to carry its troops where they were needed. In this war, any substantial American expeditionary force will have to be carried by the United States merchant marine. The availability of such a fleet for transport duty depends on an almost endless variety of factors. It is estimated that it takes 17 deadweight tons of shipping to transport a soldier, and 3.4 tons to maintain him 3,000 miles from home. A fleet of 7,000,000 tons would be required to supply 2,000,000 men.[41] On the basis of these figures, an American expeditionary force of this size would engage the great bulk of American tonnage that has till now been employed in maintaining a steady flow of raw materials coming into and war supplies going out of the United States. The fundamental answer to the problem therefore, is still ships and more ships. The magnitude of the problem was outlined by the President in his message to Congress on January 6. We must increase our production rate so rapidly, he declared, "that in this year, 1942, we shall build 8,000,000 deadweight tons, as compared with a 1941 production of 1,100,000 [and] we shall continue that increase so that next year, 1943, we shall build 10,000,000 tons."[42]

40. *The New York Times,* December 16, 1941.

41. "Ships for This War," cited, p. 120.

42. *The New York Times,* January 7, 1942. The Maritime Commission announced on January 17 that contracts had been negotiated for 632 ships of the 850 which the President's directive of January 6 called for. They will cost $1,178,000,000 and will be built through enlargements of existing facilities. The yards will go on a 7-day, around-the-clock schedule—168 hours a week of work in place of the 40-hour week of the past, and by the end of the year about 850,000 men, a third more than now, will be on the job in the yards. All but 15 of the 632 additional vessels will be Liberties, the standardized 427-foot, 10,500-ton type, and it is expected that the rate for turning them out will be reduced to 105 days from the laying of the keels to delivery. According to Commissioner Howard L. Vickery, the reason the Commission is able to step-up the program to 850 ships from the 574 of 6,000,000 tons originally scheduled for 1942 is that the design of the Liberty ships has been standardized to such an extent that building them has now become "a manufacturing problem on the lines of mass production." *The New York Times,* January 18, 1942.

SHIPPING SPACE VITAL FACTOR IN ALLIED RESISTANCE

The herculean job of building ships for this war tends to overshadow the problem of how to utilize existing tonnage. For this latter problem, however, the Allied experience of the last war has already provided an answer. In the last war, as in this one, because of the submarine blockade and the huge military needs, shipping space was the limiting factor in Allied resistance. The pivot, therefore, of the whole wartime economic organization was the Inter-Allied Maritime Transport Council, or A.M.T.C. Its control was based on one simple fact—its power to give or withhold shipping space. By the closing months of the war, 90 per cent of the seagoing tonnage of the world was controlled by the Council, through its power to allocate cargoes and arrange voyages.[43]

The Council was headed by a small group of four men, known as the Transport Executive, and composed of representatives from each of the major Allied countries (Great Britain, France, Italy and the United States). Empowered as it was to regulate almost all of the world's available tonnage, the Council was ultimately able not merely to assure the delivery of supplies to the Allies, but to bring pressure to bear on neutrals whenever and wherever needed.

Potential control of the trade routes of the world is probably the greatest single military factor now favoring the Allies. By comparison, Germany's interior lines of communication, however vital they may be to its immediate military situation, can never become the aggressive instrument the Allies have at their disposal in control of the seas. Until now, the countries fighting the Axis have not found it necessary to establish a counterpart for the Inter-Allied Maritime Transport Council in this war. When they do, by utilizing the talents of American, British, Norwegian, Dutch and Greek shipping experts as a nucleus, they will have achieved the maximum efficiency, both defensively and offensively, of the chief advantage they have over the Axis powers.

43. Sir Alfred Zimmern, *The League of Nations and the Rule of Law 1918-1935* (New York, Macmillan, 1936), p. 146.

The February 1 issue of FOREIGN POLICY REPORTS *will be*

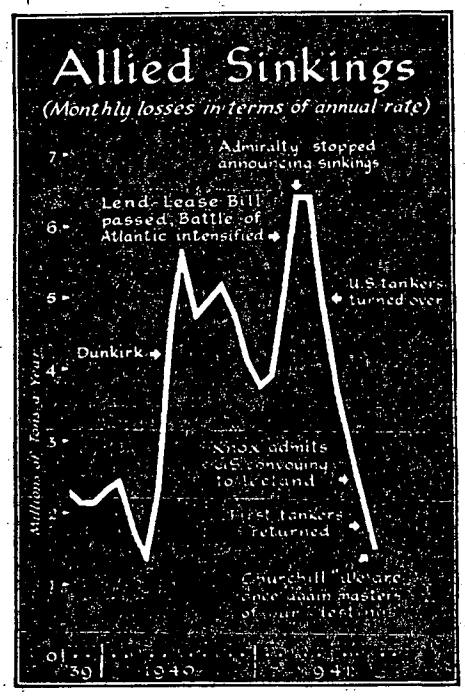
TURKEY AND THE NEAR EAST *by Louis E. Frechtling*

The Battle for the Seas

By Ona K. D. Ringwood and J. W. Scott

NAZI spokesmen have time and again claimed that Germany is relying on gradual attrition of Allied sea transportation to bring Britain to its knees. The purpose of such claims may be simply

GRAPH I



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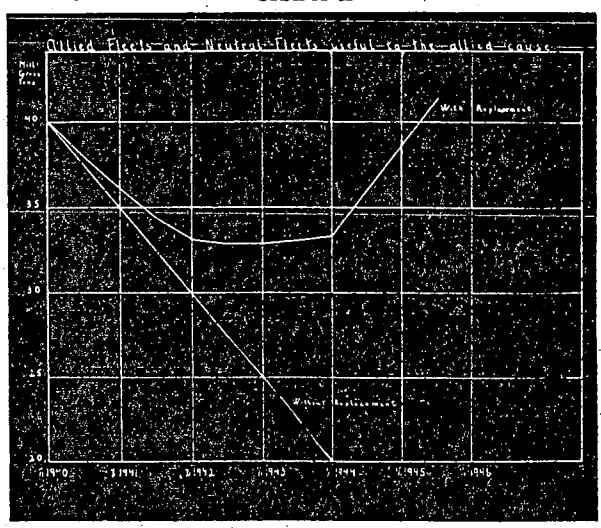
to distract attention from other German plans. But if these statements are to be taken at face value, the successful war at sea, for which the Hitler régime has hoped, will take a very long time indeed, as Graph I will indicate. On the other hand, had the Nazis been able to maintain the rate of sinking they reached in the second quarter of 1941, the business of starving the British might have been a matter of months. Britain must import about 35 million tons of material a year as a minimum. It is estimated* that the transportation of this amount of goods would require 8 million gross tons of merchant shipping with a speed of approximately 12 knots, making four complete voyages a year.

As Graph I shows, however, the rate of sinking is highly variable. Since the beginning of the war, monthly losses in terms of annual rate have varied from slightly more than one to well above six million tons. The first high peak on the scale was reached during Dunkirk and its aftermath. The second peak came with the Balkan campaign and the withdrawal from Crete. While the loss rate has been steadily declining for the last six months, a withdrawal from Singapore could send it skyrocketing again. The most hopeful aspect, from the Allied point of view, is that the Axis has not been able to maintain anything like a steady sinking rate. The Axis has won striking successes only when abnormally large numbers of ships have had to operate in unusually limited areas.

The situation for the Allies, nevertheless, remains serious. From a purely defensive point of view, it is possible to talk in terms of a "minimum" number of ships, such as was indicated in the tonnage figures quoted above as representing the amount required to keep Britain from starving. But from the point of view of winning the war, there is no such thing as "minimum" tonnage, unless the minimum is taken to be an excess of replacement over losses. It is not merely necessary to hold losses down, it is equally necessary for the Allies to add to their total tonnage. The new construction called for by President Roosevelt in his speech to the Congress on the state of the nation on January 6 will put our replacement ahead even of the highest loss rate the Axis has thus far achieved. The abruptly descending line on Graph II indicates what would happen to Allied and neutral tonnage if the average loss rate of the war thus far were not offset by replacements. If, however, the losses for the next two years are not greater than they have been for the past two, the American and Imperial building programs will break the bottleneck that would otherwise mean a long and costly defensive war.

GRAPH II



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*See Paul Wohl, "Gradual Attrition," *New York Herald Tribune*, December 7, 1941.